

ABSTRACT

A method and an apparatus for selecting an antenna from an antenna diversity array in a wireless communication system are provided. The antenna diversity array includes at least two antennas. The method includes the steps of modulating an incoming signal with a spread-spectrum type modulation, measuring a signal quality value for each antenna in the antenna diversity array, and selecting an antenna from the antenna diversity array on the basis of the measured signal quality values. The communication system may include an analog-to-digital converter, a filter, and an automatic gain control device. The analog-to-digital converter may be configured to extract a predetermined number of sample values from each of a plurality of incoming signal packets. The step of measuring a signal quality value for each antenna may include computing peak-to-average ratio values by dividing a peak sample value by an average sample value, where the average sample value is determined by averaging all of the predetermined number of sample values for each of the plurality of incoming spreading codewords, and the peak sample value is determined by selecting the maximum of all of the predetermined number of sample values for each of the plurality of incoming spreading codewords. The step of modulating may include employing direct sequence spread spectrum modulation, such as an eleven-chip Barker code. The communication system may conform to either an IEEE 802.11 standard specification or an IEEE 802.11(b) standard specification.